

**REMARKS/ARGUMENTS**Claim Status

Claims 1-66 are pending in this application. Claims 1-66 stand rejected. Claims 17 and 37 stand objected to.

Claims 17 and 37 have been amended. No claims have been canceled or added.

Claim Objections

Claims 17 and 37 stand objected to because of improper dependencies. Claim 17 has been amended to depend from claim 12, rather than from claim 2. Claim 37 has been amended to depend from claim 36, rather than from claim 24.

Applicant therefore requests that the objections to claims 17 and 37 be withdrawn.

Claim Rejections - 35 U.S.C. § 101

Claims 1-43 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, claims 1, 12, 18, 24, 30, 35, 39, and 42 stand rejected, according to the Office Action, because "steps of determining and notifying . . . do not enable the realization of a concrete result because what result

[is] being inferred from said determining and notifying remains a concept or a non-tangible representation that cannot materialize itself out and into a tangible outcome without teaching . . . an explicit action [that] is executed to yield a result based upon such said determining and notifying steps." Furthermore, the Office Action states that "the claims [do not] teach [a] tangible result if the FPU is determined to be compatible."

Applicant traverses this rejection. As will now be described in more detail, the Office Action misunderstands the requirements of a "useful, concrete, and tangible result" under 35 U.S.C. § 101, as interpreted by the U.S. Supreme Court and the Court of Appeals for the Federal Circuit.

The U.S. Supreme Court, for example, has affirmed that claims encompassing software embodiments are not excluded from satisfying the statutory subject matter requirement of 35 U.S.C. § 101. For example, in *Diamond v. Diehr*, 450 U.S. 175 (1981), the Court upheld the subject-matter patentability of a computer-implemented method for operating a rubber-molding press.

Furthermore, the Federal Circuit Court of Appeals has held that claims to computer-implemented methods may satisfy the statutory subject matter requirement even if such methods do not perform a physical transformation. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999). In that case, the court stated that

"[t]he notion of 'physical transformation' can be misunderstood," because "*it is not an invariable requirement*, but merely one example of how a mathematical algorithm may bring about a useful application." *Id.* at 1358. Therefore, the Office Action's statement that "the claims lack teaching as to what is being transformed," even if assumed to be true, is not a sufficient reason for rejecting the claims under 35 U.S.C. § 101.

In *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998), the Federal Circuit held that an apparatus claim written in means-plus-function format and directed to a computer embodying financial software satisfied the statutory subject matter requirement. For many further examples of precedent affirming the subject-matter patentability of method and apparatus claims encompassing software embodiments, see Gregory A. Stobbs, Software Patents (2d ed. 2000).

Furthermore, the Board of Patent Appeals and Interferences held in *Ex Parte Lundgren*, Appeal No. 2003-2088, that there is no basis in law for rejecting a patent claim for failure to fall within the "technological arts." The claims on appeal in *Ex Parte Lundgren* were directed to a method of compensating a manager, without specifying any particular computer hardware, software, or other technology for performing the method.

In *Metabolite Laboratories v. Laboratory Corp.*, 370 F.3d 1354 (Fed. Cir. 2004), the Federal Circuit upheld a claim to a method for detecting a deficiency of certain kinds of vitamin B, where the method was not limited to performance using a machine, and where the method included a step of "correlating an elevated level of total homocysteine in [a] body blood with a [vitamin B] deficiency." Although the court did not review the claim under § 101 specifically, the court's rejection of the defendant's arguments that the claim was invalid is particularly relevant to this case, because the step of "correlating" is essentially a step of making a determination that the patient has a vitamin B deficiency based on a body fluid assay. The claim did not recite any further transformation, result, or outcome based on that determination.

Similarly, in this case claim 1 recites a computer-implemented method which includes: (A) determining whether a first field-programmable unit (FPU) code, in a first FPU, is compatible with a computer system; and (B) notifying a user of the computer system of the incompatibility if the first FPU code is determined not to be compatible with the computer system. This method produces a useful, concrete, and tangible result, namely the determination and notification to a user of an incompatibility of an FPU code with a computer system. As described in the specification, such a method facilitates the process of ensuring that the FPU code in a newly-installed field-replaceable unit (FRU) is compatible with the other

FRUs in a computer system and with the FPU code installed in them. In particular, embodiments of the method of claim 1 may be applied to automatically ascertain whether the code in the new FPU is compatible with the code in the remaining FPUs. This is an improvement over conventional systems, in which the user must manually determine whether the new FRU and the code installed in it are compatible with the remaining FRUs and the code installed in them. Embodiments of the method of claim 1, therefore, may enable compatibility-checking to be performed more quickly, easily, and reliably than is possible manually. (See, e.g., specification at pp. 23, lines 5-23.)

The Office Action's assertion that claim 1 does not produce a tangible result misunderstands the meaning of "tangible" as established by Federal Circuit precedent. For example, in *State Street Bank*, the Federal Circuit held that:

the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"—a final share price momentarily fixed for recording and

reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. *State Street Bank* at 1373.

In other words, the transformation of *data*, representing *dollar amounts*, through a series of *mathematical calculations* into a *share price* can constitute the production of a result that is not only "tangible" but also "useful and concrete." According to the Federal Circuit, the final share price is "useful, concrete, and tangible" at least in part because it is "accepted and relied upon by regulatory authorities and in subsequent trades." Similarly, the method of claim 1 in this case is "computer-implemented" and therefore tangibly transforms signals within a computer as it is performed, and notifies a user of the results of a compatibility determination. The result of this determination may be relied upon by the user in deciding, for example, whether to remove the first field-programmable unit or to continue using it with the computer system. This is a "useful, concrete, and tangible result" of the same kind as that in *State Street*.

The Office Action further states that "the claims lack teaching as to what is being transformed." The requirement of a physical transformation flatly contradicts not only the holding in *AT&T v. Excel*, but also the USPTO's own Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility

(available online at [http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf)), which state on p. 2 that "a practical application of a 35 U.S.C. § 101 judicial exception is claimed if the claimed invention physically transforms an article or physical object to a different state or thing, or if the claimed invention otherwise produces a useful, concrete, and tangible result." (Emphasis added.) The use of the word "or" makes clear that a physical transformation is not required. Rather, the claimed invention is directed to statutory subject matter *either* if it performs a physical transformation *or* if it produces a useful, concrete, and tangible result. For the reasons stated above, claim 1 recites subject matter that produces a useful, concrete, and tangible result.

The remaining rejected claims contain limitations that are substantially similar to those cited above for claim 1. Applicant therefore respectfully requests that the rejection of claims 1-43 be withdrawn.

#### Claim Rejections - 35 U.S.C. § 102

Claims 1-66 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Maffezzoni et al. (U.S. Pat. No. 6,532,535). In particular, the Office Action states that the claim language "determining whether the first FPU code is compatible with the

computer system" reads on element 666 of FIG. 15, and that the claim language "if the first FPU code is determined not to be compatible with the computer system, notifying a user of the computer system of the incompatibility" reads on element 670 of FIG. 15.

Although the portions of Maffezzoni cited by the Office Action do generally describe techniques for determining whether a newly-installed hard disk drive is compatible with a computer system, they do not describe the particular limitations of the claims of the present application. Claim 1, for example, recites "a computer system including a first field-programmable unit including first field-programmable unit (FPU) code."

As described generally in the Background section of the present application:

The term "field-programmable unit" (FPU) refers to a hardware component whose functionality may be modified by electronically programming it. Examples of FPUs include system firmware (e.g., BIOS), embedded enclosure process firmware, and Field-Programmable Gate Arrays (FPGAs). Each of these kinds of FPUs is capable of storing electrical signals representing code that dictates, in whole or in part, the functions performed by the FPU. The



functionality of an FPU, therefore, may be modified merely by modifying the code (in the form of electrical signals) stored in the FPU.

The Office Action does not point to any disclosure in Maffezzoni of an FPU having FPU code. Instead, the Office Action points to disclosure by Maffezzoni of various disk drives, examples of which are shown in FIG. 1A and labeled 104a-c.

Furthermore, step (A) of claim 1 recites "determining whether the first FPU code is compatible with the computer system." The Office Action does not point to any teaching in Maffezoni of this limitation. Instead, the Office Action points to col. 49, lines 25-31 of Maffezoni, which states that "[w]hen a new hard drive has been installed, the method will proceed to an operation 666 in which it is determined whether the new hard drive is compatible with the host computer system." This passage of Maffezoni discloses determining whether the *hard drive* is compatible with the computer system, not whether any *FPU code in the hard drive* is compatible with the computer system, as required by claim 1. Furthermore, Maffezoni merely states that the determination of compatibility is made, without teaching or suggesting that the determination is made by reference to any FPU code in the hard drive.

In summary, Maffezoni fails to teach an express limitation of claim 1. Claim 1, therefore, patentably distinguishes over Maffezoni.

All of the rejected claims contain the same or substantially the same relevant limitation as claim 1, either directly or through dependency, and therefore patentably distinguish over Maffezoni for at least the same reasons as claim 1.

**CONCLUSIONS**

Any dependent claims not specifically discussed above depend, either directly or indirectly, from the independent claims discussed above and therefore are patentable for at least the same reason(s).

If the Examiner wishes to discuss this Response, the Examiner is requested to call the Applicant's attorney at the phone number listed below.

If this response is not considered timely filed and if a request for extension of time is otherwise absent, applicant hereby requests any extension of time. Please charge any fees or make any credits, to Deposit Account No. 08-2025.

Respectfully submitted,

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